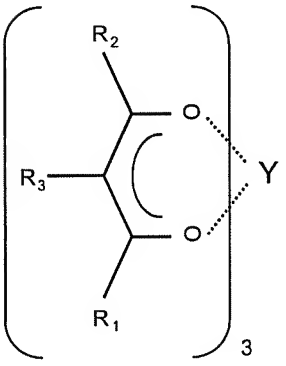
AMENDMENTS TO THE CLAIMS:

1-15. (Cancelled)

16. (New) A catalyst for polymerization of conjugated diene, comprising: (A) an yttrium compound; (B) an ionic compound including a non-coordinate anion and a cation; and (C) an organometallic compound including an element selected from the groups 2, 12 and 13 of the periodic table.

17. (New) The catalyst for polymerization of conjugated diene according to claim 16, wherein the (A) yttrium compound comprises an yttrium compound having a bulky ligand in the following general formula:

[Chemical Formula 1]



where R_1, R_2, R_3 denote hydrogen or a substituent having 1-12 carbon atoms; O denotes an oxygen atom; and Y denotes an yttrium atom.

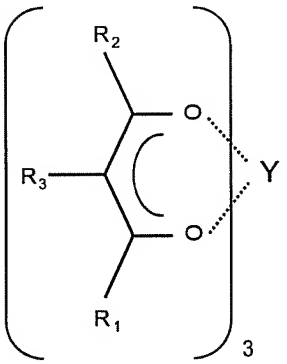
18. (New) The catalyst for polymerization of conjugated diene according to claim 16, wherein the (A) yttrium compound comprises a carboxylate.

19. (New) The catalyst for polymerization of conjugated diene according to claim 16, wherein the conjugated diene polymers include a cis-1,4-polybutadiene having 90 % or more of a cis-1,4 structure.

20. (New) A method of manufacturing conjugated diene polymers, comprising polymerizing a conjugated diene using the catalyst for polymerization according to claim 16.

21. (New) The method of manufacturing conjugated diene polymers according to claim 20, wherein the (A) yttrium compound comprises an yttrium compound having a high volume ligand in the following general formula:

[Chemical Formula 2]



where R_1, R_2, R_3 denote hydrogen or a substituent having 1-12 carbon atoms; O denotes an oxygen atom; and Y denotes an yttrium atom.

22. (New) The method of manufacturing conjugated diene polymers according to claim 20, wherein the step of polymerizing the conjugated diene polymer includes adjusting a molecular weight by a compound selected from (1) hydrogen, (2) a hydrogenated metallic compound and (3) a hydrogenated organometallic compound.

23. (New) The method of manufacturing conjugated diene polymers according to claim 22, wherein the hydrogenated organometallic compound comprises a dialkyl aluminum hydride.

24. (New) A rubber composition for tires, comprising:

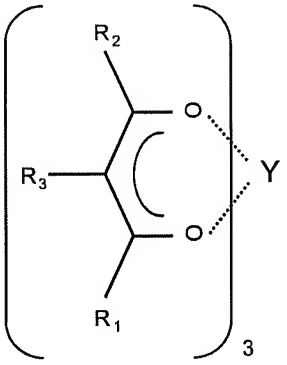
(a) 10-90 % by weight of a high-cis polybutadiene derived from polymerization of 1,3-butadiene in the presence of a catalyst comprising (A) an yttrium compound, (B) an ionic compound including a non-coordinate anion and a cation, and (C) an organometallic compound including an element selected from the groups 2, 12, 13 of the periodic table;

(b) 90-10 % by weight of a diene-based rubber other than the (a) high-cis polybutadiene; and

(c) 1-100 parts by weight of a rubber reinforcer mixed in 100 parts by weight of a rubber component (a)+(b).

25. (New) The rubber composition for tires according to claim 24, wherein the (A) yttrium compound comprises an yttrium compound having a high volume ligand in the following general formula:

[Chemical Formula 3]



where R_1, R_2, R_3 denote hydrogen or a substituent having 1-12 carbon atoms; O denotes an oxygen atom; and Y denotes an yttrium atom.

26. (New) The rubber composition for tires according to claim 24, wherein the high-cis polybutadiene has a molecular weight adjusted by a compound selected from (1) hydrogen, (2) a hydrogenated metallic compound and (3) a hydrogenated organometallic compound.

27. (New) The rubber composition for tires according to claim 26, wherein the hydrogenated organometallic compound comprises a dialkyl aluminum hydride.

28. (New) The rubber composition for tires according to claim 24, wherein the high-cis polybutadiene comprises a cis-1,4-polybutadiene having 90 % or more of a cis-1,4 structure.

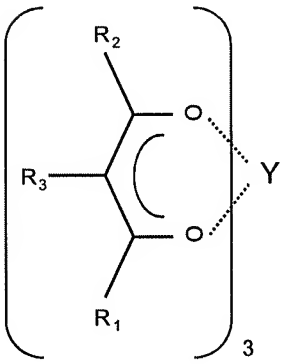
29. (New) A rubber composition for golf balls, comprising:

a base polymer including a high-cis polybutadiene derived from polymerization of 1,3-butadiene in the presence of a catalyst comprising (A) an yttrium compound, (B) an ionic compound including a non-coordinate anion and a cation, and (C) an organometallic compound including an element selected from the groups 2, 12, 13 of the periodic table; and

10-50 parts by weight of a crosslinking coagent mixed in 100 parts by weight of the base polymer.

30. (New) The rubber composition for golf balls according to claim 29, wherein the (A) yttrium compound comprises an yttrium compound having a high volume ligand in the following general formula:

[Chemical Formula 4]



where R_1, R_2, R_3 denote hydrogen or a substituent having 1-12 carbon atoms; O denotes an oxygen atom; and Y denotes an yttrium atom.

31. (New) The rubber composition for golf balls according to claim 29, wherein the high-cis polybutadiene has a molecular weight adjusted by a compound selected from (1) hydrogen, (2) a hydrogenated metallic compound and (3) a hydrogenated organometallic compound.

32. (New) The rubber composition for golf balls according to claim 31, wherein the hydrogenated organometallic compound comprises a dialkyl aluminum hydride.

33. (New) The rubber composition for golf balls according to claim 29, wherein the high-cis polybutadiene comprises a cis-1,4-polybutadiene having 90 % or more of a cis-1,4 structure.